



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 29

[Docket No. FAA-2013-0502; Special Conditions No. 29-030-SC]

Special Conditions: Eurocopter France, EC175B; Use of 30-Minute Power Rating.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Eurocopter France Model EC175B helicopter. This model helicopter will have the novel or unusual design feature of a 30-minute power rating, generally intended to be used for hovering at increased power for search and rescue missions. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: The effective date of these special conditions is June 3, 2013. We must receive your comments by **[insert date 45 days after date of publication]**.

ADDRESSES: Send comments identified by docket number FAA-2013-0502 using any of the following methods:

- Federal eRegulations Portal: Go to <http://www.regulations.gov> and follow the online instructions for sending your comments electronically.

- Mail: Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE., Room W12-140, West Building Ground Floor, Washington, D.C., 20590-0001.
- Hand Delivery of Courier: Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, S.E., Washington, D.C., between 8 a.m., and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: Fax comments to Docket Operations at 202-493-2251.

Privacy: The FAA will post all comments it receives, without change, to <http://regulations.gov>, including any personal information the commenter provides. Using the search function of the docket web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the Federal Register published on April 11, 2000 (65 FR 19477-19478), as well as at <http://DocketsInfo.dot.gov>.

Docket: Background documents or comments received may be read at <http://www.regulations.gov> at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room @12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, D.C., between 9 a.m., and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Eric Haight, Rotorcraft Standards Staff, ASW-111, Rotorcraft Directorate, Aircraft Certification Service, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5204; facsimile (817) 222-5961.

SUPPLEMENTARY INFORMATION:

Reason for No Prior Notice and Comment before Adoption

The FAA has determined that notice and opportunity for public comment are impractical because we do not expect substantive comments, and because this special condition only affects this one manufacturer. We also considered that these procedures would significantly delay the issuance of the design approval, and thus, the delivery of the affected aircraft. As certification for the Eurocopter France model EC175B is imminent, the FAA finds that good cause exists for making these special conditions effective upon issuance.

Comments Invited

While we did not precede this with a notice of proposed special conditions, we invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

We will consider all comments we receive by the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change these special conditions based on the comments we receive.

Background and Discussion

On March 10, 2008, Eurocopter France applied for a Type Certificate for the new model EC175B. The EC175B is a Transport Category, 14 CFR part 29, twin engine

conventional helicopter designed for civil operations. This model will be certificated with Category A performance and under dual pilot instrument flight rules, powered by two Pratt & Whitney PT6C-67E engines with a dual channel Full Authority Digital Engine Control system, have five main rotor blades, a maximum gross weight of 15,400 pounds, and a velocity not to exceed 175 knots. The EC175B model will have an integrated modular avionics suite with four 6x8 inch multi-function displays termed the Common Integrated Global Avionics for Light Helicopters. This rotorcraft will be capable of carrying 16 passengers and 2 crew members. Its initial customer base will be offshore oil and Search and Rescue operations.

Eurocopter France proposes that the EC175B model use a novel and unusual design feature, which is a 30-minute power rating, identified in the Pratt & Whitney Canada PT6C-67E engine type certificate data sheet (TCDS) [FAA TCDS No. E00068EN]. 14 CFR 1.1 defines “rated takeoff power” as limited in use to no more than 5 minutes for takeoff operation. Thus, the use of takeoff power for 30 minutes will require special airworthiness standards, known as special conditions, to address the use of this 30-minute power rating and its effects on the rotorcraft. The use of this power will be limited to 50 minutes per flight based on engine durability considerations. These special conditions will add requirements to the existing airworthiness standards in 14 CFR 29.1049 (Hovering cooling test procedures), § 29.1305 (Powerplant instruments), and § 29.1521 (Powerplant limitations).

For the EC175B, the European Aviation Safety Agency has issued CRI E-01, which documents the special conditions.

The following is a summary of the final special conditions:

In addition to the requirements of § 29.1049, the aircraft cooling effects due to use of the 30-minute power rating must be accounted for in the testing.

In addition to the requirements of § 29.1305, since this new 30-minute power rating has a time limit associated with its use, the pilot must have the means to identify:

- When the rated engine power level is achieved,
- When the event begins,
- When the time interval expires, and
- When the cumulative time in one flight is reached.

In addition to the requirements of § 29.1521, Powerplant Limitations, the use of takeoff power for 30 minutes must be limited to not more than 30 minutes per use and no more than 50 minutes per flight. This is based upon the definition of “rated takeoff power” in 14 CFR 1.1, which limits the use of rated takeoff power to periods of not over 5 minutes for takeoff operation.

Furthermore, the Model EC175B rotorcraft flight manual must include limitations on use of the 30-minute power rating to state:

- Continuous use above maximum continuous power (MCP) is limited to 30 minutes, and
- Cumulative use above MCP is limited to 50 minutes per flight.

Type Certification Basis

Under 14 CFR 21.17, Eurocopter France must show that the EC175B model helicopter meets the applicable provisions of part 29, as amended by Amendment 29-1 through 29-52, dated April 5, 2010. In addition, the certification basis includes certain later amended sections of part 29 that are not relevant to these special conditions.

The Administrator has determined that the applicable airworthiness regulations (that is, 14 CFR part 29) do not contain adequate or appropriate safety standards for the EC175B model helicopter because of a novel or unusual design feature. Therefore, special conditions are prescribed under the provisions of 14 CFR 21.16.

In addition to the applicable airworthiness regulations and special conditions, the EC175B must comply with the noise certification requirements of 14 CFR part 36; and the FAA must issue a finding of regulatory adequacy under section 611 of Public Law 92-574, the “Noise Control Act of 1972.”

The FAA issues special conditions, as defined in § 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, the special conditions would also apply to the other model.

Novel or Unusual Design Features

The EC175B model helicopter will incorporate a novel or unusual design feature, which is:

- A 30-minute power rating.

Applicability

These special conditions are applicable to the Eurocopter France model EC175B helicopter. Should Eurocopter France apply at a later date for an amendment to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on the Eurocopter France model EC175B helicopter. It is not a rule of general applicability, and it affects only the applicant who applied to the FAA for approval of this feature.

List of Subjects in 14 CFR Part 29

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Eurocopter France model EC175B helicopter. Unless stated otherwise, all requirements in §§ 29.1049, 29.1305, and 29.1521 remain unchanged.

(a) Section 29.1049 Hovering cooling test procedures, Final Rule. Docket No. [5084](#); issued October 13, 1964. In addition to the requirements of this section, the special condition states:

“The hovering cooling provisions at the 30-minute power rating must be shown--

(a) At maximum weight or at the greatest weight at which the rotorcraft can hover (if less), at sea level, with the power required to hover but not more than the 30-minute power, in the ground effect in still air, until:

- at least 5 minutes after the occurrence of the highest temperature recorded; or
- the continuous time limit of the 30-minute power rating if the highest temperature recorded is not stabilized before.

(b) At maximum weight, and at the altitude resulting in zero rate of climb for this configuration, until:

- at least 5 minutes after the occurrence of the highest temperature recorded; or
- the continuous time limit of the 30-minute power rating if the highest temperature recorded is not stabilized before.”

(b) Section 29.1305 Powerplant instruments, at Amendment 29-40. In addition to the requirements of this section, the special condition is similar to §29.1305(a)(25) for the 30-minute power rating and states:

“For rotorcraft with a 30-minute power rating, a means must be provided to alert the pilot when the engine is at the 30-minute power level, when the event begins, when the time interval expires, and when the cumulative time in one flight is reached.”

(c) Section 29.1521 Powerplant limitations, at Amendment 29-41. In addition to the requirements of this section, the special condition is similar to §29.1521(b) and states:

“Use of the 30-minute power must be limited to no more than 30 minutes per use, and no more than 50 minutes per flight. The use of the 30-minute power must also be limited by:

- (1) The maximum rotational speed, which may not be greater than--
 - (i) The maximum value determined by the rotor design; or
 - (ii) The maximum value demonstrated during the type tests;
- (2) The maximum allowable turbine inlet or turbine outlet gas temperature (for turbine engines);
- (3) The maximum allowable power or torque for each engine, considering the power input limitations of the transmission with all engines operating;

(4) The maximum allowable power or torque for each engine considering the power input limitations of the transmission with one engine inoperative;

(5) The time limit for the use of the power corresponding to the limitations established in paragraphs (b)(1) through (5) of this section; and

(6) If the time limit established in paragraph (b)(6) of this paragraph exceeds 2 minutes--

(i) The maximum allowable engine and transmission oil temperatures.”

Issued in Fort Worth, Texas on June 3, 2013.

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